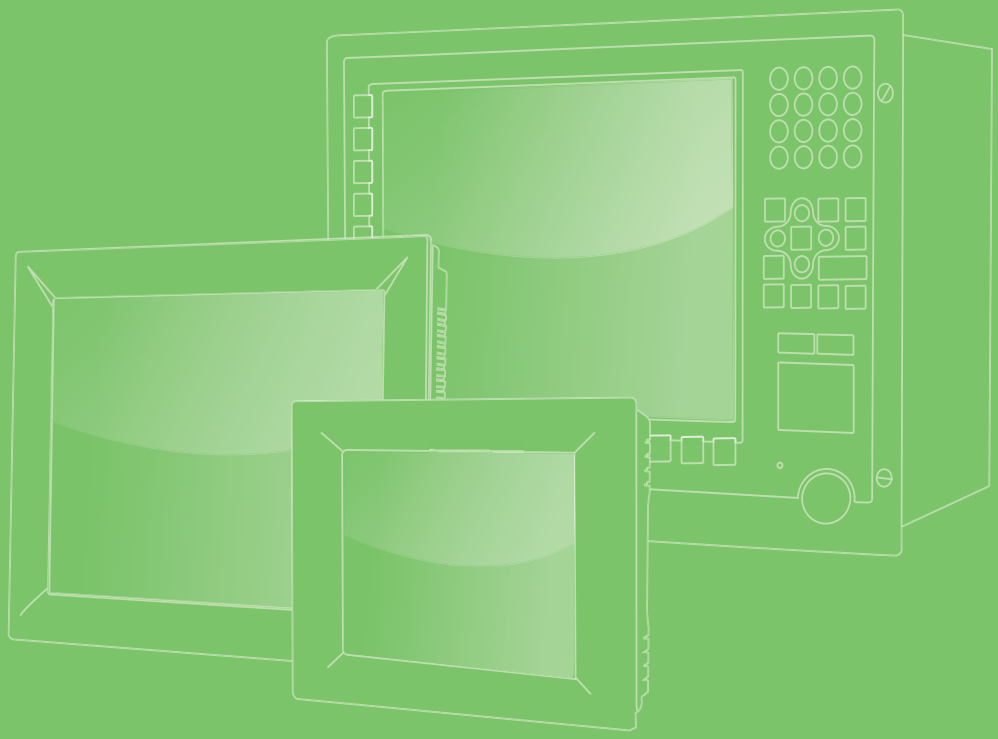

User Manual

PPC-1150

Intel® ATOM™ N2600 processor based microcomputer, with 15" color TFT LCD display

ADVANTECH

Enabling an Intelligent Planet

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This warranty does not apply to any products which have been repaired or altered by persons other than repair personnel authorized by Advantech, or which have been subject to misuse, abuse, accident or improper installation. Advantech assumes no liability under the terms of this warranty as a consequence of such events.

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1. Collect all the information about the problem encountered. (For example, CPU speed, Advantech products used, other hardware and software used, etc.) Note anything abnormal and list any onscreen messages you get when the problem occurs.
2. Call your dealer and describe the problem. Please have your manual, product, and any helpful information readily available.
3. If your product is diagnosed as defective, obtain an RMA (return merchandize authorization) number from your dealer. This allows us to process your return more quickly.
4. Carefully pack the defective product, a fully-completed Repair and Replacement Order Card and a photocopy proof of purchase date (such as your sales receipt) in a shippable container. A product returned without proof of the purchase date is not eligible for warranty service.
5. Write the RMA number visibly on the outside of the package and ship it prepaid to your dealer.

Part No. 200K115010 Edition 1

Printed in China June 2014

Declaration of Conformity

FCC Class A

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Technical Support and Assistance

1. Visit the Advantech web site at http://support.advantech.com where you can find the latest information about the product.
2. Contact your distributor, sales representative, or Advantech's customer service center for technical support if you need additional assistance. Please have the following information ready before you call:
   - Product name and serial number
   - Description of your peripheral attachments
   - Description of your software (operating system, version, application software, etc.)
   - A complete description of the problem
   - The exact wording of any error messages

Safety Instructions

1. Read these safety instructions carefully.
2. Keep this User Manual for later reference.
3. Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.
4. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a reliable surface during installation. Dropping it or letting it fall may cause damage.
7. The openings on the enclosure are for air convection. Protect the equipment from overheating. DO NOT COVER THE OPENINGS.
8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
9. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
12. Never pour any liquid into an opening. This may cause fire or electrical shock.
13. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
14. If one of the following situations arises, get the equipment checked by service personnel:
    - The power cord or plug is damaged.
    - Liquid has penetrated into the equipment.
    - The equipment has been exposed to moisture.
    - The equipment does not work well, or you cannot get it to work according to the user's manual.
    - The equipment has been dropped and damaged.
    - The equipment has obvious signs of breakage.
15. DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT WHERE THE STORAGE TEMPERATURE MAY GO BELOW -20° C (-4° F) OR ABOVE 60° C (140° F). THIS COULD DAMAGE THE EQUIPMENT. THE EQUIPMENT SHOULD BE IN A CONTROLLED ENVIRONMENT.
16. CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER, DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

The sound pressure level at the operator's position according to IEC 704-1:1982 is no more than 70 dB (A).

DISCLAIMER: This set of instructions is given according to IEC 704-1. Advantech disclaims all responsibility for the accuracy of any statements contained herein.

Safety Precaution - Static Electricity

Follow these simple precautions to protect yourself from harm and the products from damage.

- To avoid electrical shock, always disconnect the power from your PC chassis before you work on it. Don't touch any components on the CPU card or other cards while the PC is on.
- Disconnect power before making any configuration changes. The sudden rush of power as you connect a jumper or install a card may damage sensitive electronic components.

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Chapter 1

General Information

This chapter gives background information on the PPC-1150 panel PC.

Sections include:

- Introduction
- Specifications
- Dimensions

1.1 Introduction

The PPC-1150 is an Intel Atom N2600 based Panel PC with a 15" color TFT LCD, which can be installed in versatile applications under harsh environment. The streamlined design, slim and compact chassis makes it convenient and space-saving. The fanless design ensures the stable operation of PPC-1150 in any harsh industrial environment. It is equipped with the most commonly used interfaces, such as dual Gigabit Ethernet ports, four USB ports and one audio output interface. The PPC-1150 also provides five COM ports, including three RS-232, one RS-232/422/485 and one RS-422/485, making it the ideal choice of industrial applications with multiple COM ports. In addition, PPC-1150 supports wireless network, mSATA or HDD storage options and optional 2 x 2W speakers. The above mentions features embodies the humanized design of the product and meets the requirements of a wide range of customers.

1.2 Specifications

1.2.1 General Specification

Product	PPC-1150
LCD Specification	15” LCD
Display Type	15" TFT LCD (LED backlight)
Max. Resolution	1024 x 768
Color	262K
Pixel Pitch	0.297 x 0.297mm
Viewing Angle	80 (left), 80 (right), 70 (top), 70 (bottom)
Brightness	250 cd/m^2 (Typ.)
Contrast	700
Backlight Lifecycle	50, 000 hours
Weight	5.3 kg
Dimensions	396 x 317 x 57 (mm) (15.6” x 12.5” x 2.24”)
CPU	Model: Intel Atom N2600 — Frequency: 1.6 GHz — Cache: 1 MB
Chipset	Intel N2600 + NM10
Memory	One 204 pin SO-DIMM slot, up to 2G DDR3 (667MHz)
Storage	2.5" SATA HDD
Network	2 x Gigabit Ethernet ports
I/O Ports	5 x COM Ports: 1 x RS-232/422/485, 1 x RS-422/485, 3 x RS-232 4 x USB 2.0 ports 2 x Gigabit Ethernet ports 1 x VGA, 1 x DP 1 x audio out port 2 x 2 W speaker (optional) 1 x Phoenix power port, 1 x Power switch
Expansion Slot	1 x PCIe x4 (standard) 1 x PCI (in the accessory box)
Additional Expansion Slot	1 x Mini PCIe full-size slot and 1 x mSATA card slot
System	WES 09/WES 7/Win CE 7.0/Win XP Pro/Win 7/Linux

1.2.2 Power Specifications

Power	20 W (test system: Windows7 32bit) 18 W (test system: WindowsXP32bit)
Output Voltage	12-30 V_{DC}, 5~2 A

Note 1:

PPC-1150's power test conditions are as follows:

Test Software	Test Configuration
Burn-in 7.0	Memory: Transcend DDR3 1333 SODIMM 2G x 1 HDD: WD 500G WD5000BPKX 2.5" SATA I/O: COM Port RS232 Loopback x4, USB2.0 Device x3, USB Mouse x1

1.2.3 Touchscreen Specifications

Type	Five-wire resistive touchscreen
Light Transmission	81%+/-3%
Controller	COM interface
Durability	36 million times

1.2.4 Environment Specifications

Operation Temperature	0 ~ 50°C (32 ~ 122°F)
Storage Temperature	-20 ~ 60°C (-4 ~ 140°F)
Relative Temperature	10 ~ 95% @ 40°C (non-condensing)
Shock	10 G peak acceleration (11 msec duration)
Vibration	5 ~ 500 Hz 1 G RMS

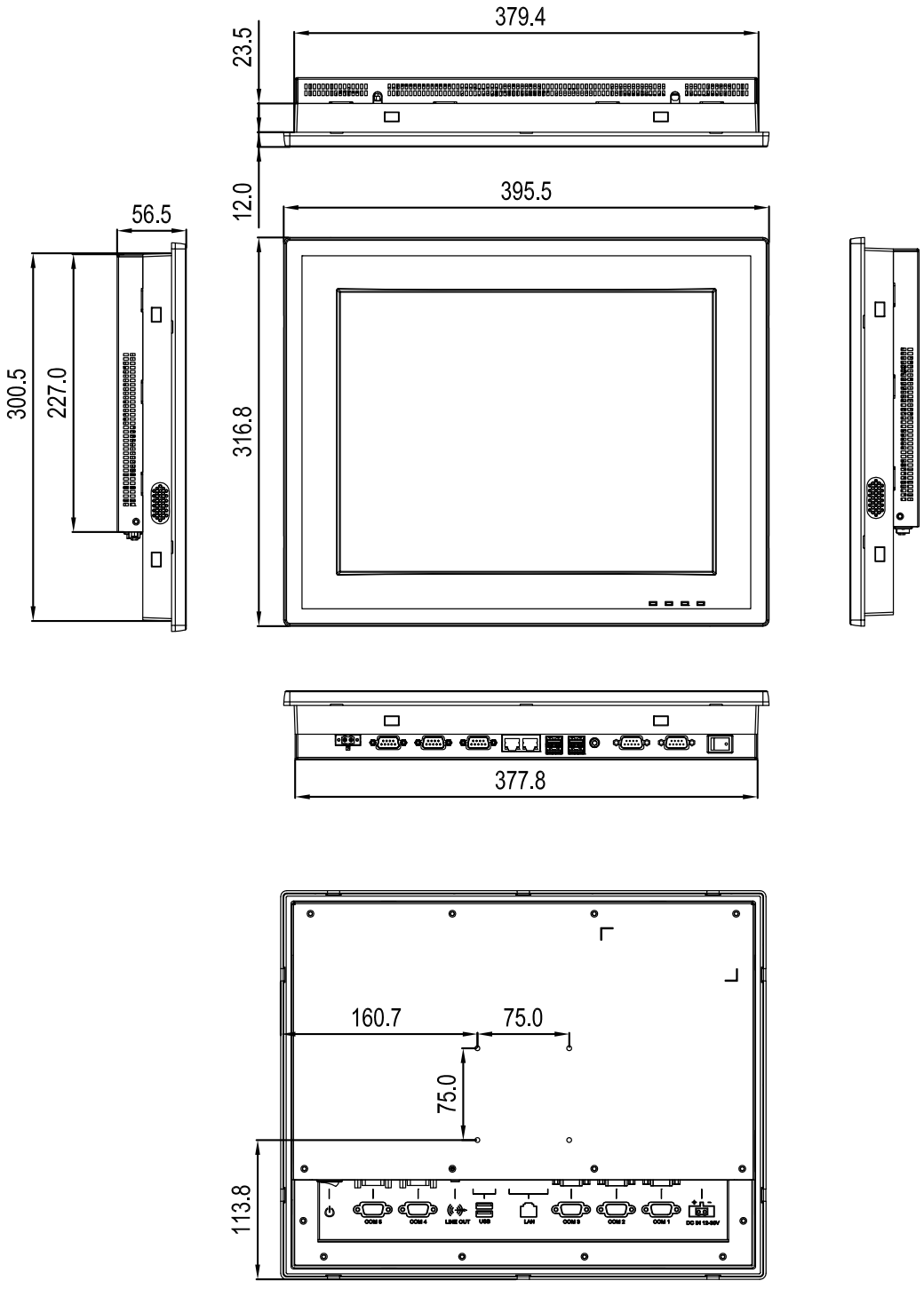
1.2.5 Certification

EMC	FCC Class **A**
Safety	CCC

1.2.6 IP Grade

Front Panel IP Grade	IP65 compliant

1.3 Dimensions



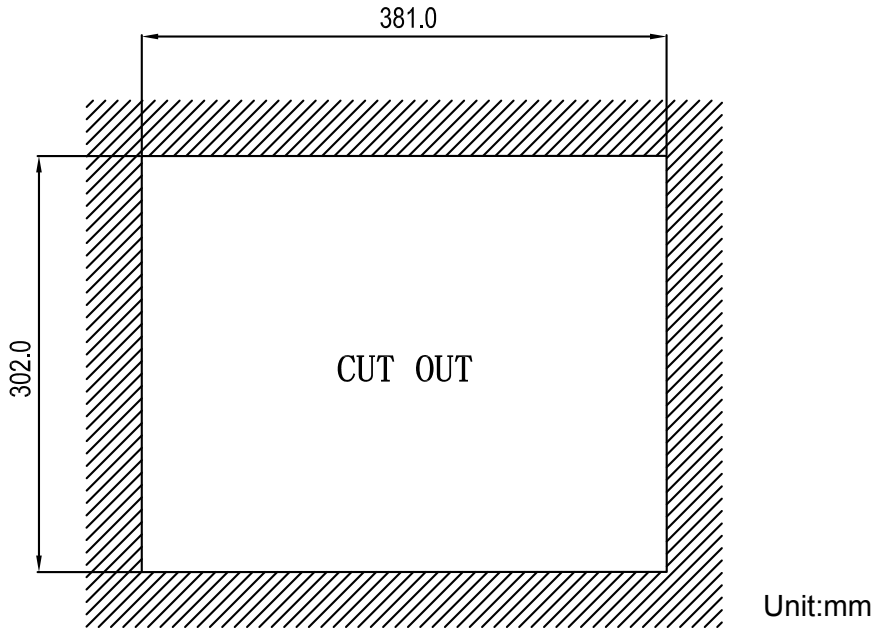


Figure 1.1 PPC-1150 dimensions

Note! *Specification of mounting VESA screws: M4*6L*

Chapter 2

System Installation & Setup

Sections include:

- Quick Installation Guide
- Install Memory
- Install mSATA and SATA HDD
- Install Wireless LAN Card
- Hook Installation

2.1 Quick Start Guide

Before you start to set up the panel PC, take a moment to become familiar with the locations and functions of the controls, connectors and ports.

Front view:

Figure 2.1 Front panel

Note! *There are no LED indicators on the front panel.*

Side view:

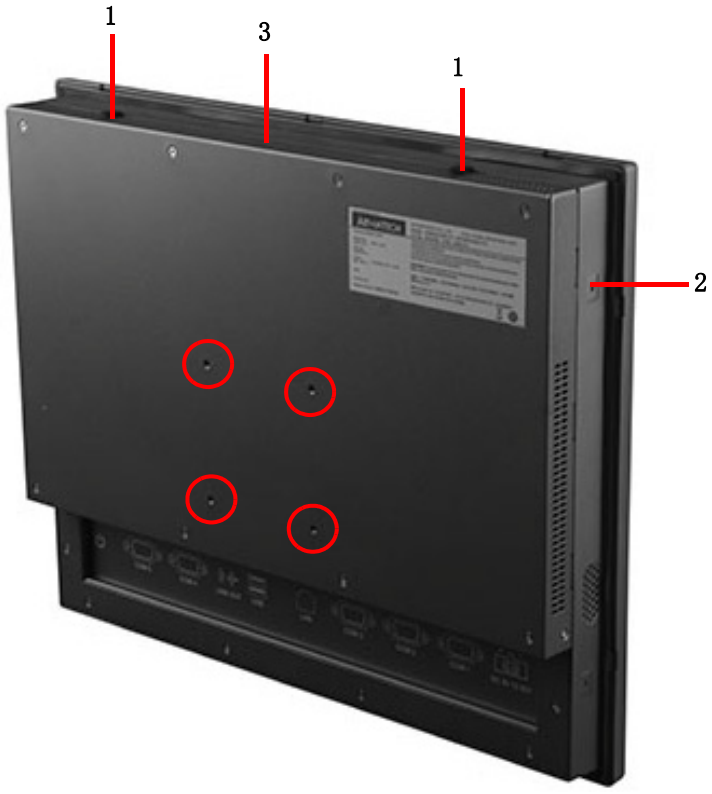


Figure 2.2 Side view

Items in red circles are VESA screw holes (screw specification: M4*6)

1. Antenna hole (two)
2. Panel Mount Bracket holes
3. Vent hole

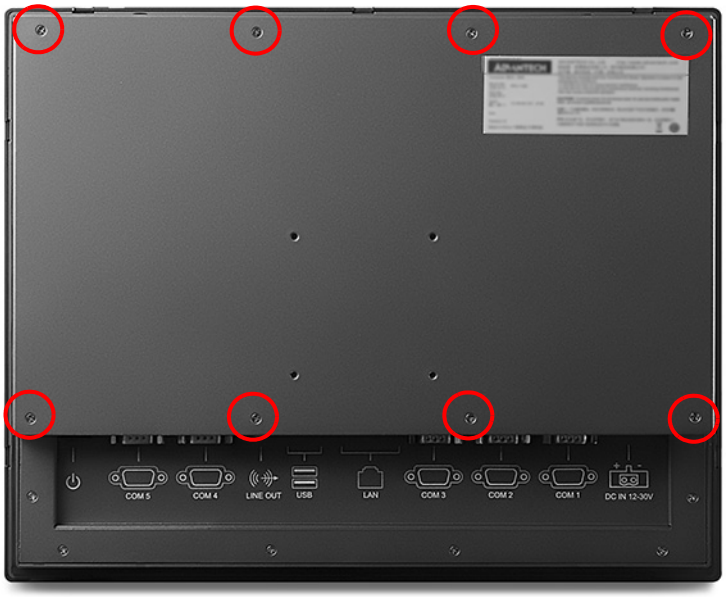
I/O interfaces:

Please refer to the figure below:

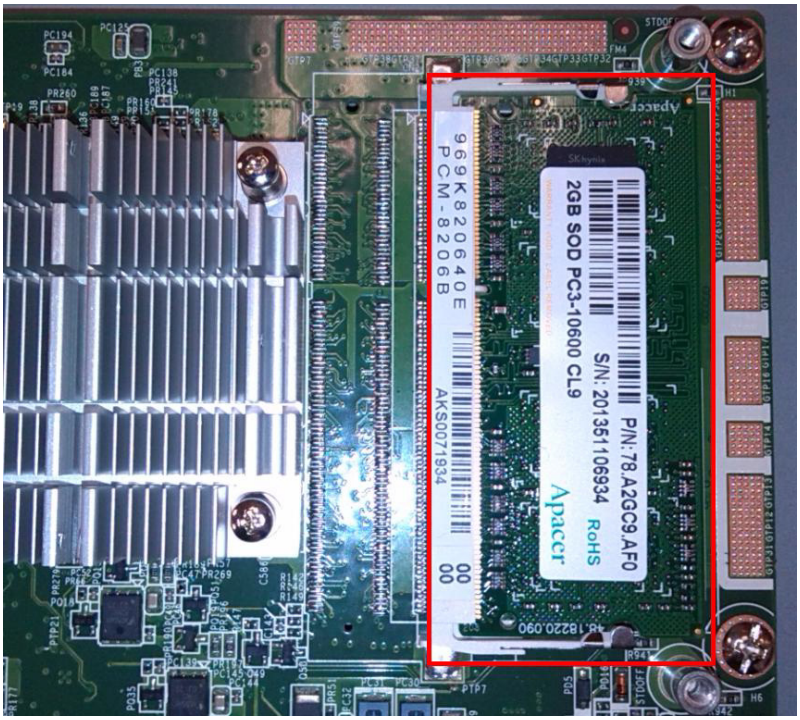
COM1:RS232, COM2:RS232/422/485, COM3:RS232, COM4:RS422/485, COM5:RS232

2.2 Install Memory Card

1. Loosen the eight screws on the rear cover and two on both sides.



2. Insert the memory card into the specified DIMM slot.



2.3 Install the mSATA and SATA HDD

1. mSATA installation
   Plug the mSATA into the mainboard interface and secure it with two screws provided in the accessary box.

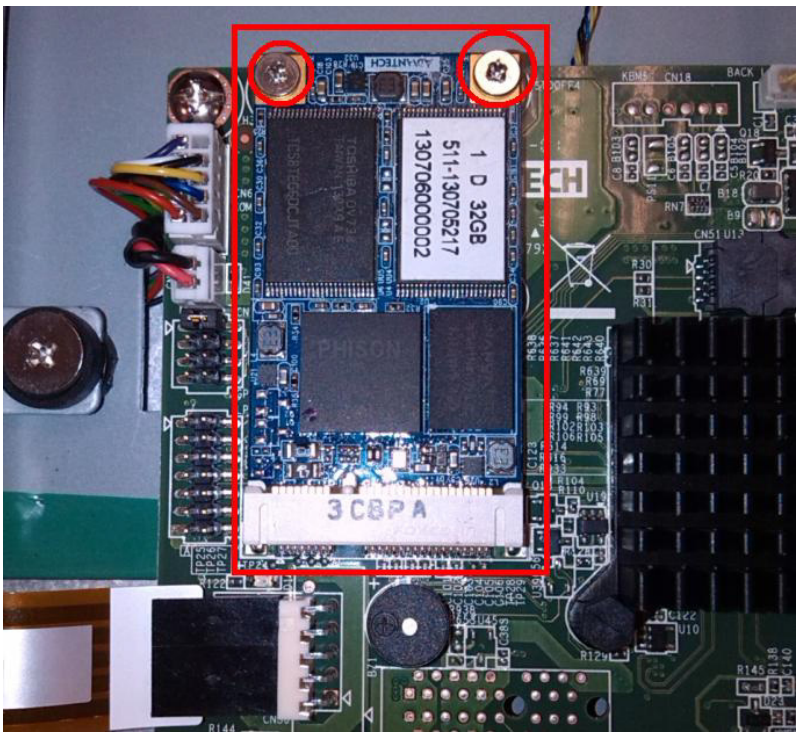
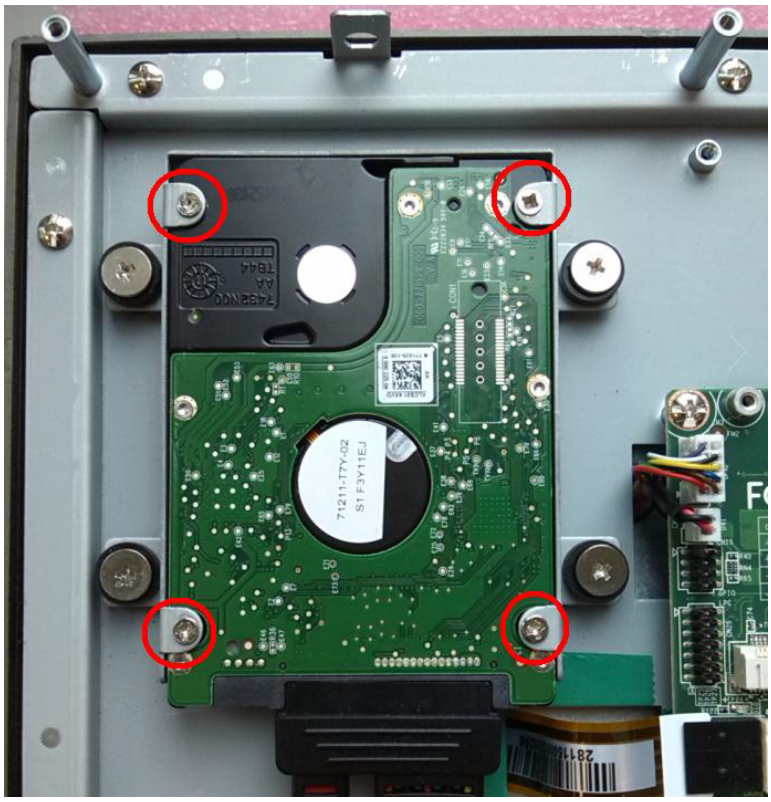


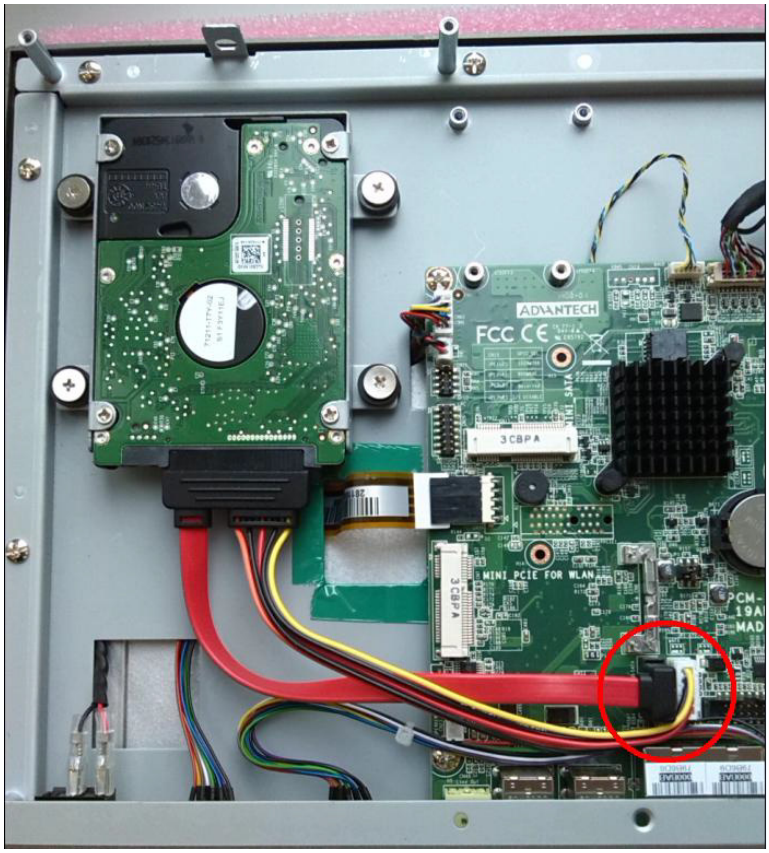
Figure 2.3 Install mSATA

2. SATA HDD installation

a. Take out four screws from the accessary box to fix SATA HDD to the bracket.

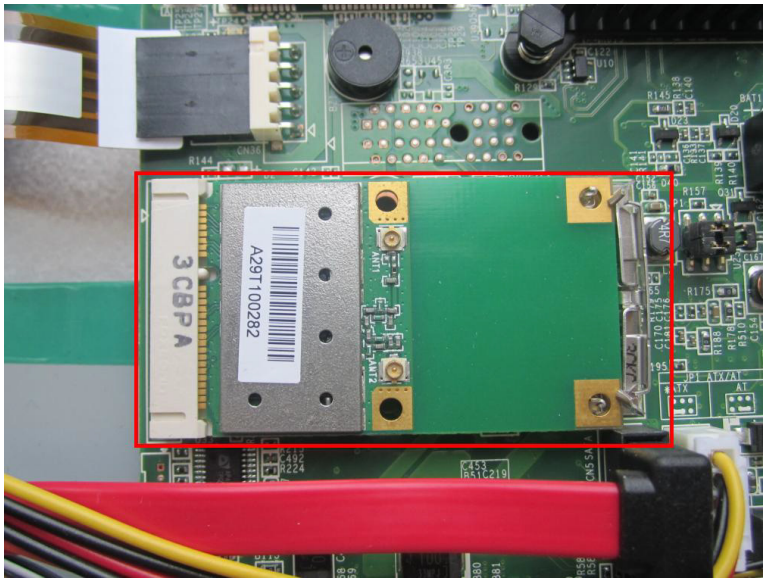


b. Connect the HDD cable and notice the wiring. Do not let the HDD cable press the data cable.

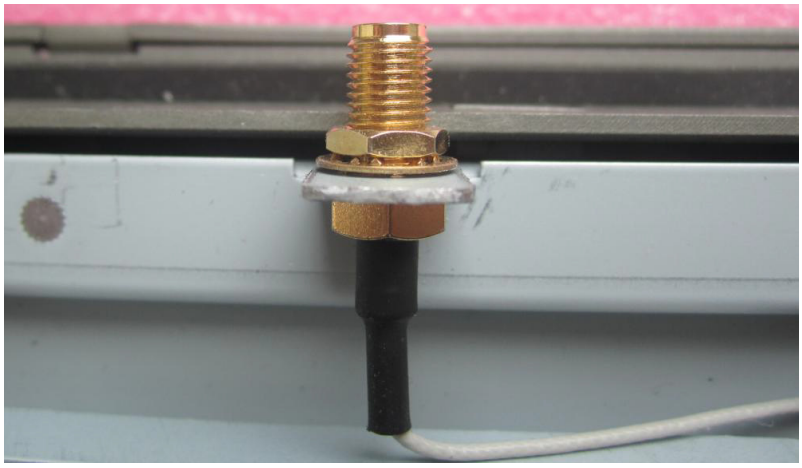


2.4 Install Wireless LAN Card

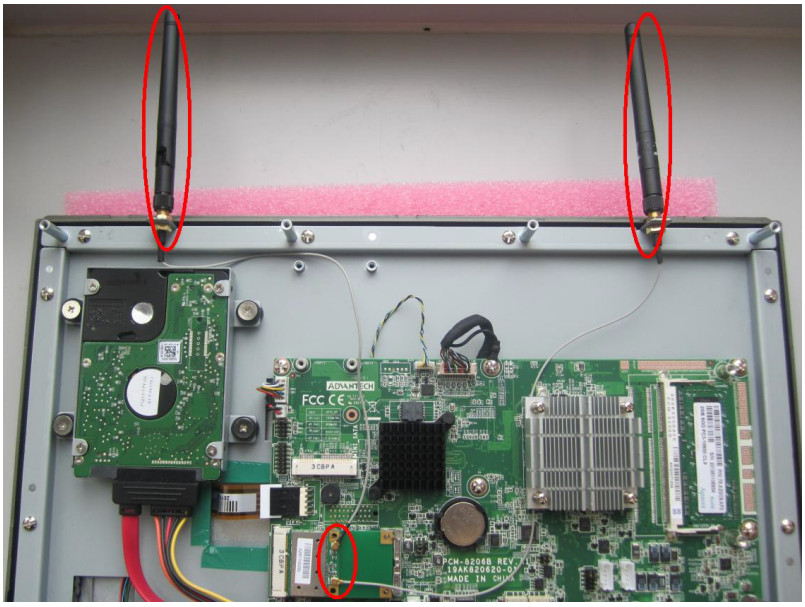
1. Insert the wireless LAN card into the mainboard interface and fix it.



2. Secure the antenna as shown below (eudipleural, two places)



3. Connect the antenna to the wireless LAN card and attach the external antenna terminals.



2.5 Installation Procedures

2.5.1 Connecting Power Cord

The panel PC can only be powered through an DC electrical outlet (12 - 30 V). Pay attention to the positive and negative polarity of the DC input. Follow these procedures to connect the power cord:

1. Connect the female end of the power cord to the DC inlet of the panel PC.
2. Connect the 3-pin male plug of the power cord to an electrical outlet.

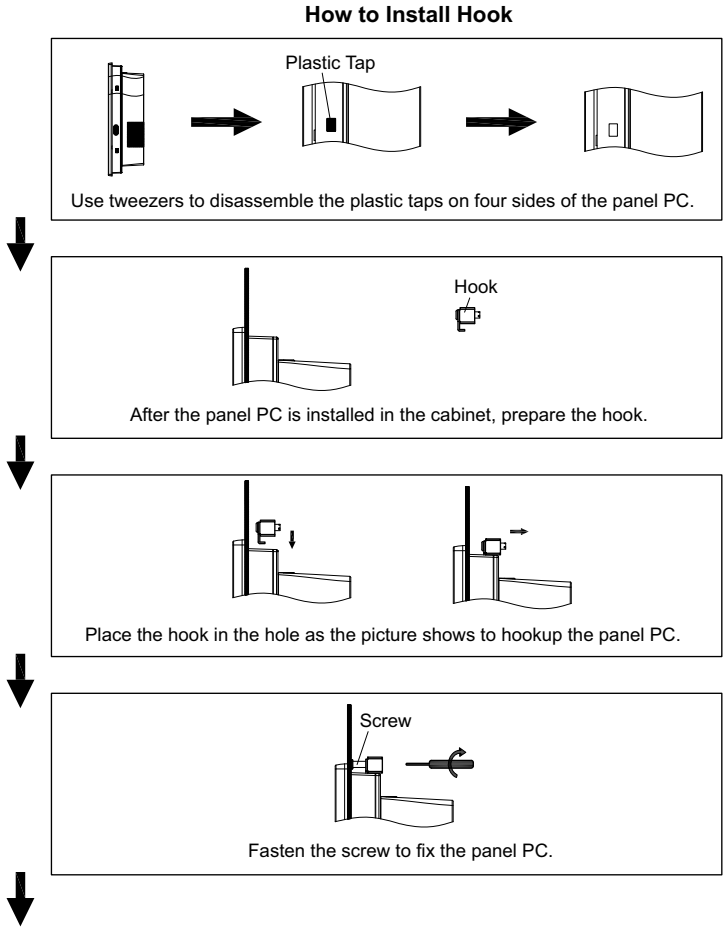
2.5.2 Connecting Keyboard and Mouse

Connect the mouse and keyboard to the USB interface of the panel PC.

2.5.3 Switching on Power

Press the power switch located at the left of the I/O section.

2.6 Hook Installation


How to Install Hook
Plastic Tap
Use tweezers to disassemble the plastic taps on four sides of the panel PC.
Hook
After the panel PC is installed in the cabinet, prepare the hook.
Place the hook in the hole as the picture shows to hookup the panel PC.
Screw
Fasten the screw to fix the panel PC.

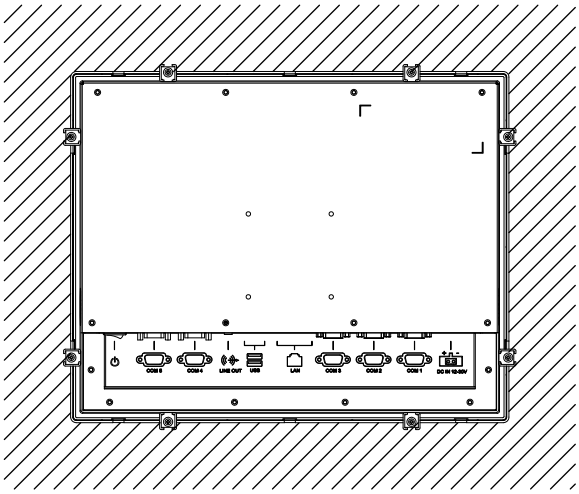


Figure 2.4 Hook Installation

Chapter 3

Jumper Configuration

Sections include:

- PCM-8206B Front View
- Jumper Settings

3.1 PCM-8206B Front View

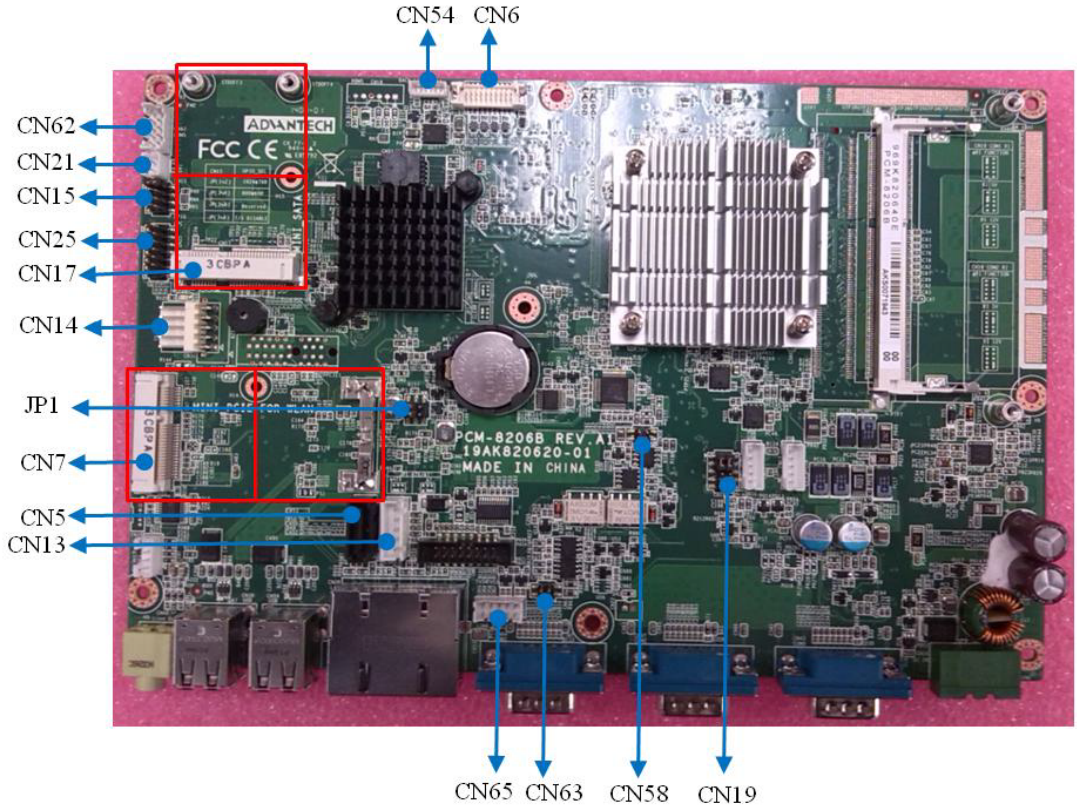
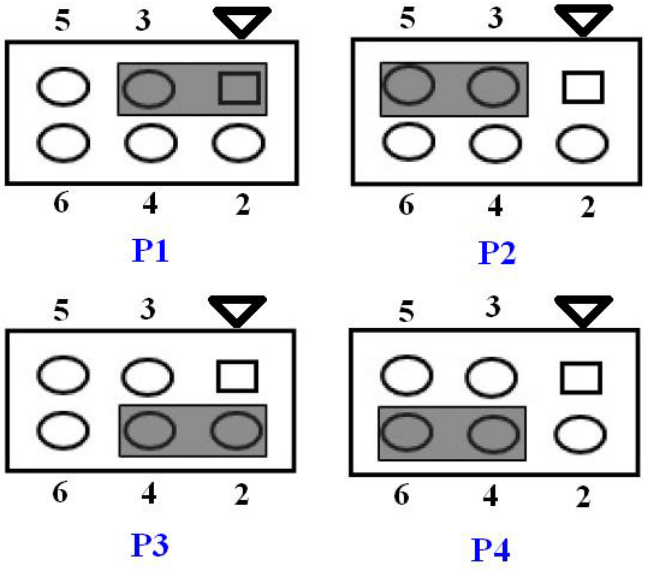


Figure 3.1 Front view

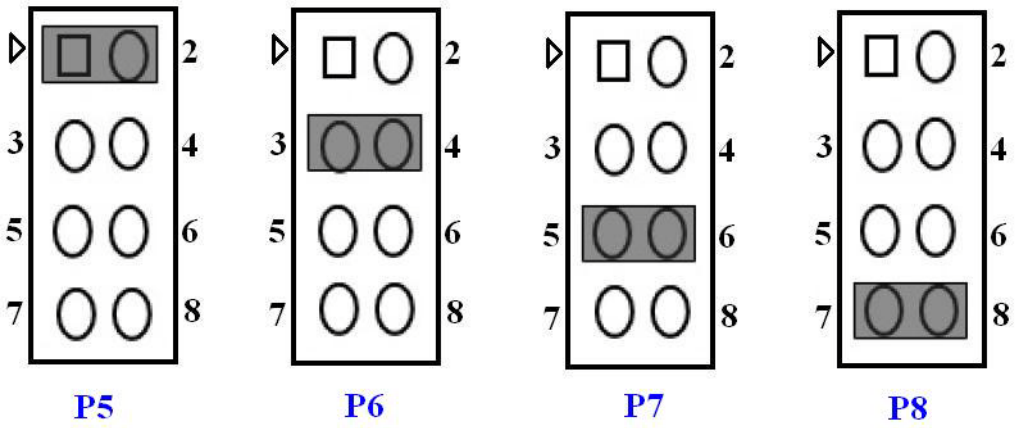
Connectors	Function
CN6	LVDS
CN54	Backlight
CN62	COM5
CN21	Reset button
CN15	LCD size select
CN25	LPC
CN17	mSATA
CN14	Touch screen interface
JP1	AT/ATX Select / Clear CMOS
CN7	Mini PCIE
CN5	SATA
CN13	SATA power connector
CN65	COM4
CN63	COM4 RS422 120Ω resistor select
CN58	COM2 RS422 120Ω resistor select
CN19	COM1/COM2 Pin9 voltage select

3.2 Jumper Settings

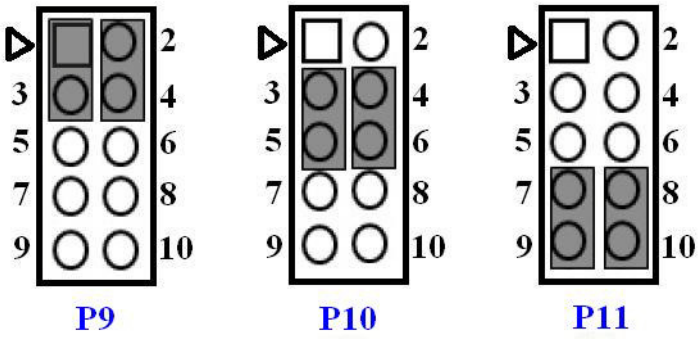
JP1	Graphic	AT/ATX Select / Clear CMOS
(1-3)	P1	CMOS Clear
(3-5)(Default)	P2	Normal
(2-4)	P3	AT Power
(4-6)(Default)	P4	ATX power



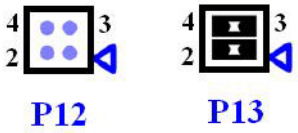
CN15	Graphic	Function
(1-2) (Default)	P5	1024*768 Panel
(3-4)	P6	800*600 Panel
(5-6)	P7	Reserved
(7-8)	P8	Touch Disable



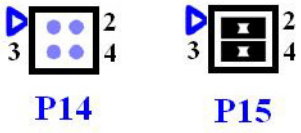
CN19	Graphic	COM1/COM2 Pin9 Voltage Select
(1-3)(2-4) (Default)	P9	RI
(3-5)(4-6)	P10	5V(COM1/COM2 Pin9) Max?500mA
(7-9)(8-10)	P11	12V(COM1/COM2 Pin9) Max:250mA



CN58	Graphic	COM3 RS422 120Ω Resistor Select
(1-2)(3-4)	P13	Add 120Ω resistor



CN63	Graphic	COM4 RS422 120Ω Resistor Select
(1-2)(3-4)	P15	Add 120Ω resistor



Chapter 4

Software Configuration

Sections include:

- **Install Drivers**
- **BIOS Setup Program**

4.1 Install Divers

When first using the system, users need to set up corresponding drivers, in order to ensure all functions are normal. Please take out the DVD-ROM from the accessory box and open it in the system:

Follow the instructions to install the drivers. The drivers in the accompanied DVD-ROM may not be the latest version, if needed, please find it at:

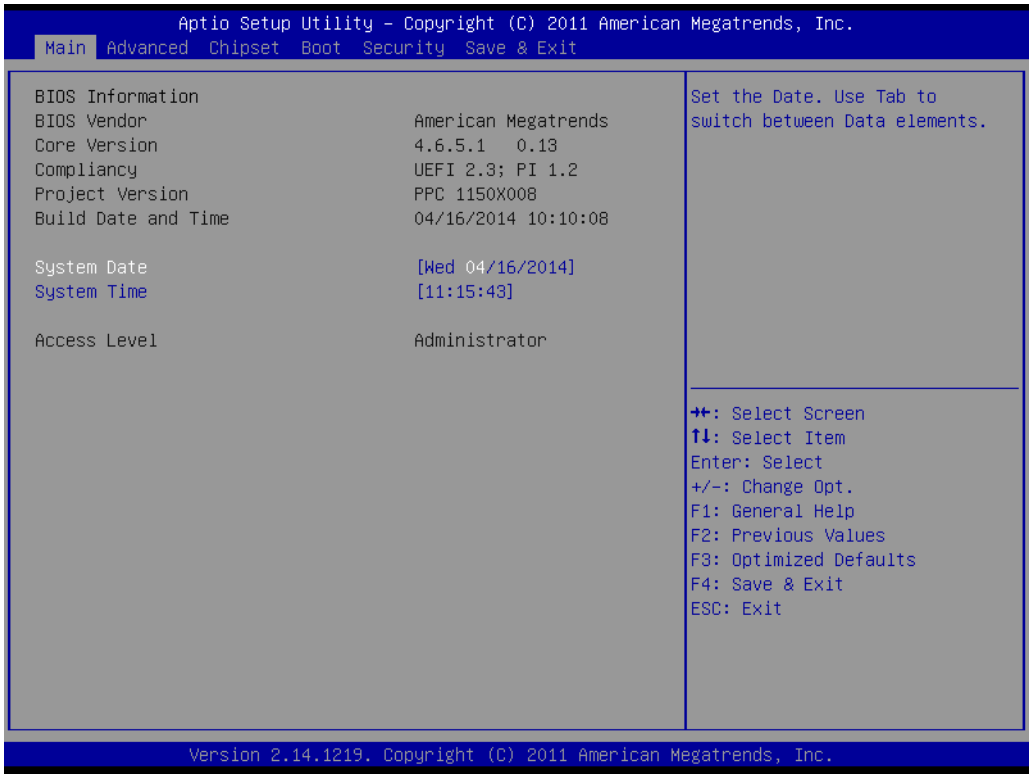
http://www.advantech.com/

4.2 BIOS Setup

4.2.1 Enter BIOS

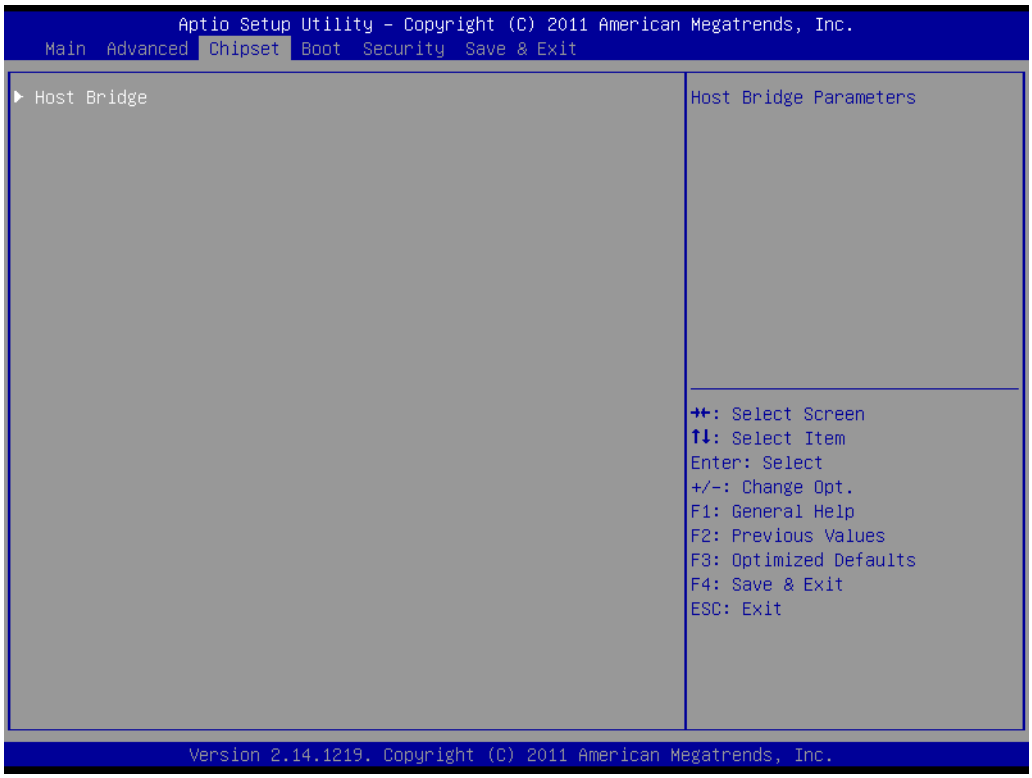
Start the computer and press “Delete” key to enter BIOS.

Press “F4” to save and exit after any configuration, or the configuration won't be saved in BIOS.


Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
Main Advanced Chipset Boot Security Save & Exit
BIOS Information
BIOS Vendor American Megatrends
Core Version 4.6.5.1 0.13
Compliancy UEFI 2.3; PI 1.2
Project Version PPC 1150X008
Build Date and Time 04/16/2014 10:10:08
System Date [Wed 04/16/2014]
System Time [11:15:43]
Access Level Administrator
Set the Date. Use Tab to switch between Data elements.
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

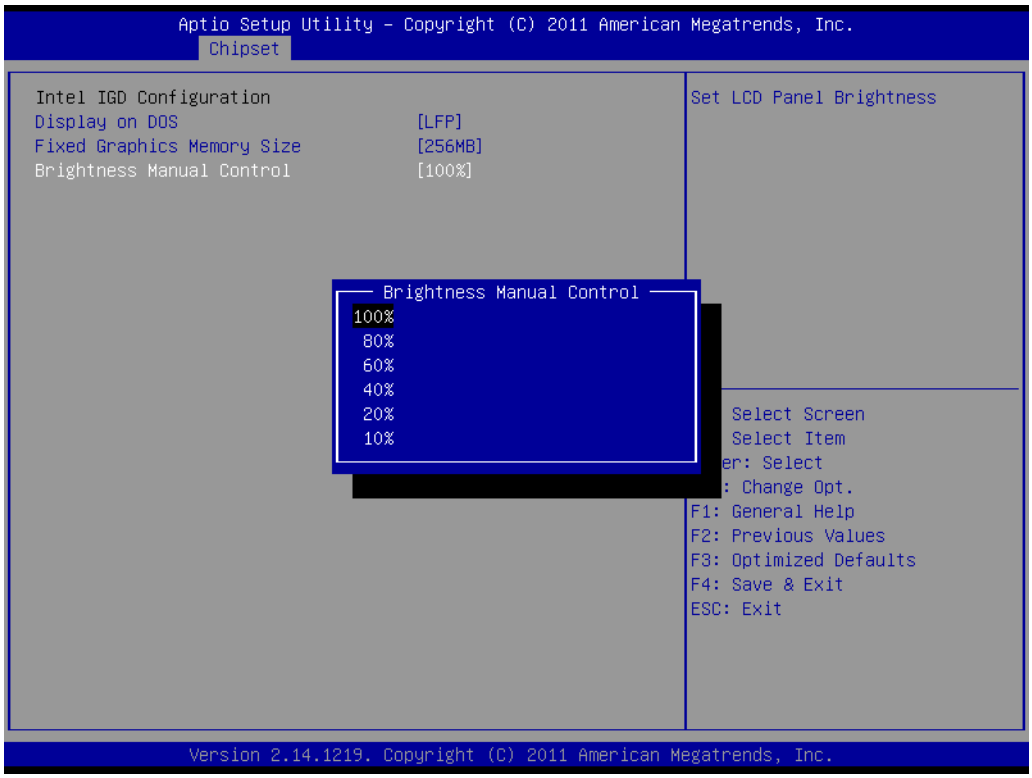
4.2.2 Display Brightness Adjustment

1. Select “Brightness Control” under “Host Bridge”.


Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
Main Advanced Chipset Boot Security Save & Exit
Host Bridge
Host Bridge Parameters
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

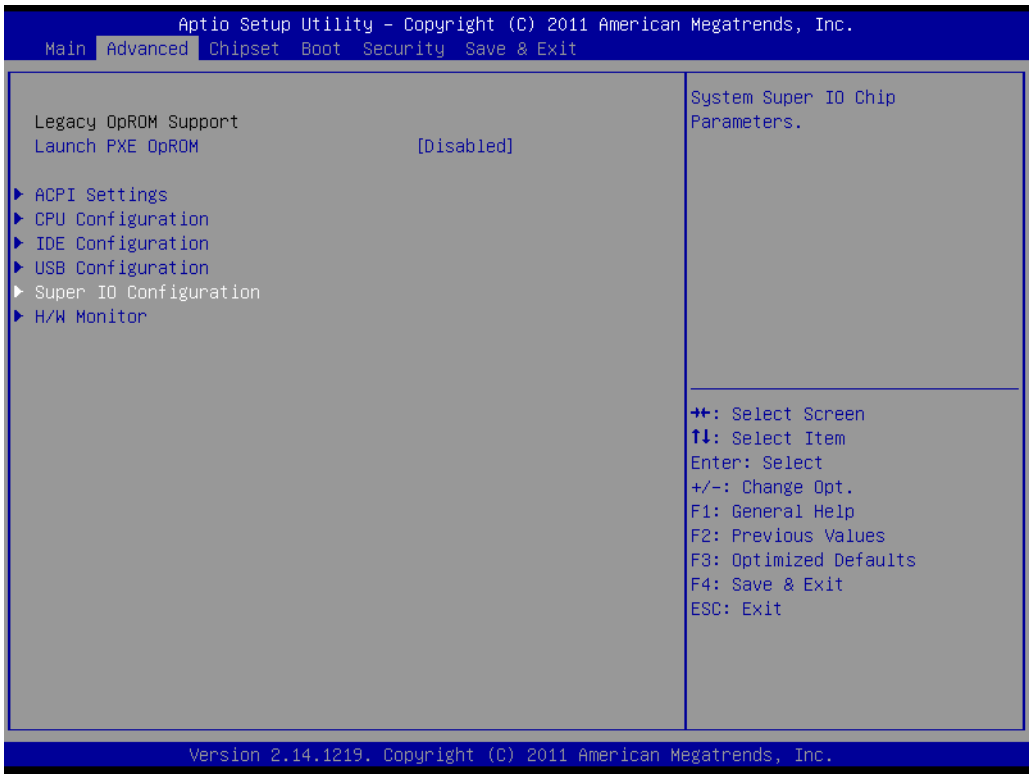
2. Select “Intel IGD Configurationl”.

3. There are 6 options under “Brightness Manual Control”.

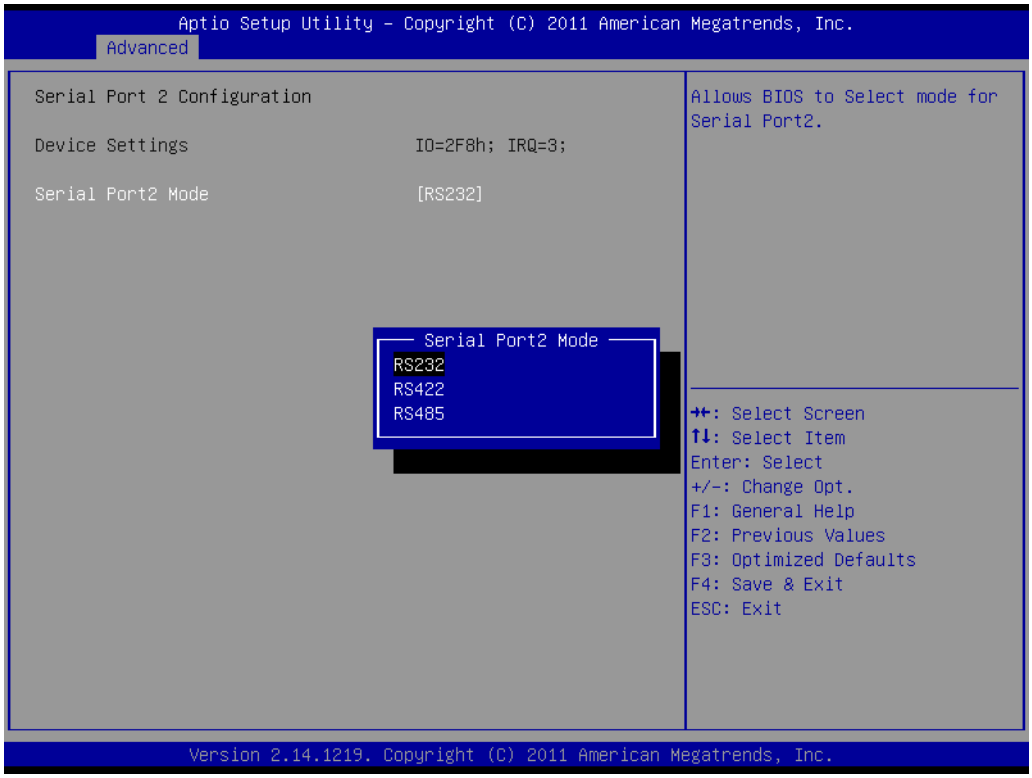


4.2.3 COM2 Mode Selection (RS232/RS422/RS485)

1. Select “Super IO Configuration” under “Advanced”.

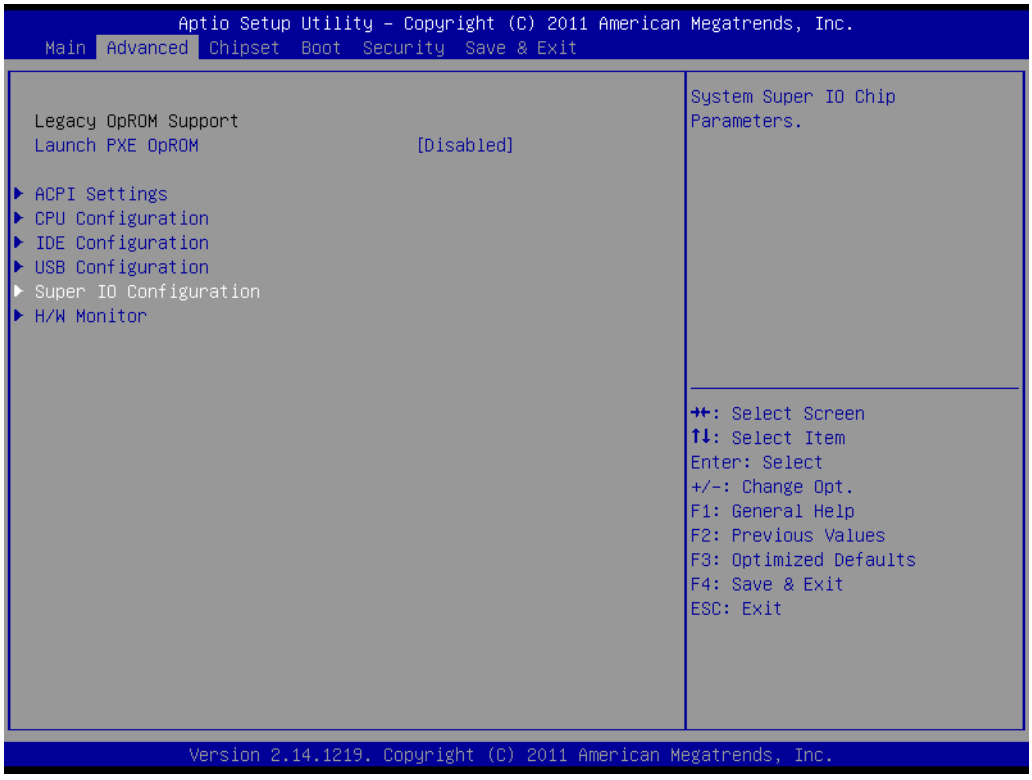


2. Select “Serial Port 2 Configuration” and then select the operation mode of COM2 by "Serial Port2 Mode".

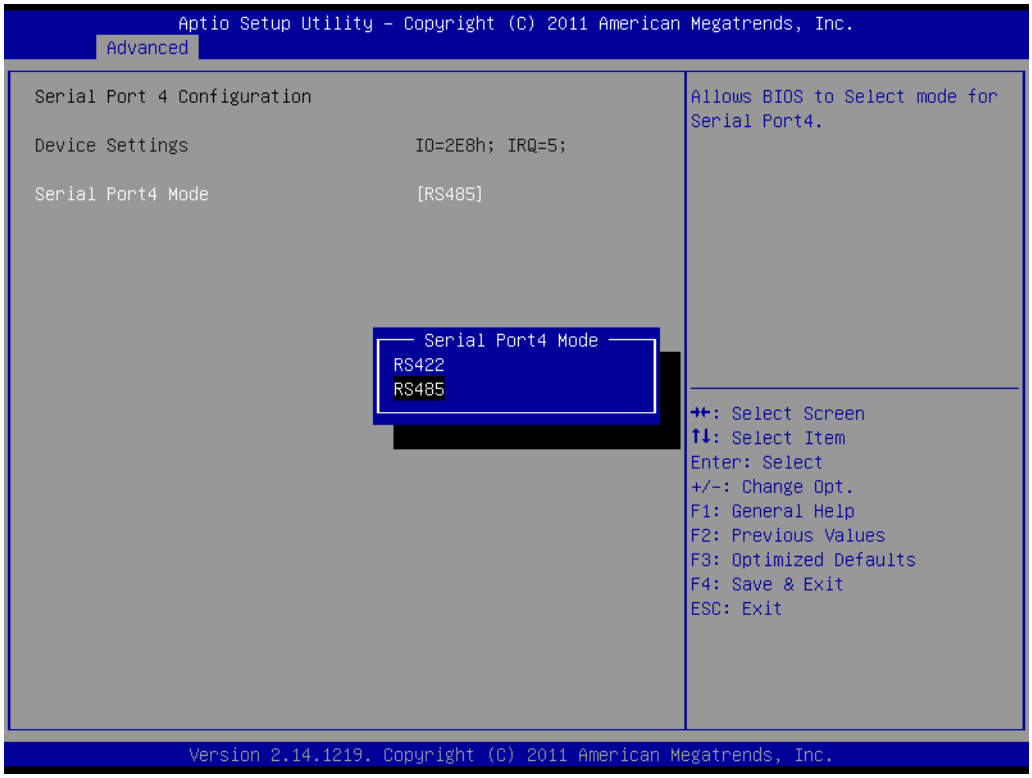


4.2.4 COM4 Mode Selection (RS422/RS485)

1. Select “Super IO Configuration” under “Advanced”.



2. Select “Serial Port 4 Configuration” and then select the operation mode of COM4 by "Serial Port4 Mode".



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